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**PROVISIONAL PATENT APPLICATION TRANSMITTAL**

(Provisional Application under 37 CFR 1.53(c))

Attorney Docket No.

**3118PR**

Transmitted herewith for filing is the Provisional Patent Application of:

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19249 U.S. PTO  
60/556672



Title: Fail Safe Switch for Computer Systems

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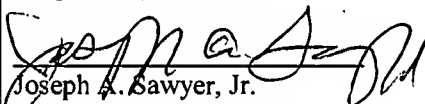
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## FAIL SAFE SWITCH FOR COMPUTER SYSTEMS

### 5 FIELD OF THE INVENTION

The present invention relates generally to processing systems and more particularly to the power and reset circuitry for use with such processing systems.

### BACKGROUND OF THE INVENTION

10 Modern computer systems have sophisticated power supplies that require more than one switch for powering up and down of the system. Many of these systems come with at least two switches that are accessed on the front of the system box for power on and off of the system and resetting the system. These switches are normally easily accessible and are required for the user to turn on and off the system. Also, normally they are in addition to  
15 any mains power switch which may also reside on the system chassis and which is usually found in the rear of the system and somewhat inaccessible.

However, although the power switch and to a lesser degree the reset switch must be easily accessible, accidental pressing of either switch can cause significant harm to the computer and interrupt possibly important computer functions that are in process. This  
20 invention provides a simple and elegant solution to such accidental interruptions of a computer system caused by unintended depression of the power switch or the reset switch

### SUMMARY OF THE INVENTION

In order to prevent accidental depression of a front panel power switch or front panel  
25 reset switch of a computer system, a novel circuit utilizing an additional safety switch, the

SafeLock switch, is proposed that provides a simple but effective way of preventing accidental switch closures without adding significant cost or complexity to the original switch functions.

## 5 BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows conventional circuitry used for power on-off and reset circuitry for a modern computer system.

Figure 2 shows the SafeLock system of switches for power on-off and reset circuitry.

## 10 DETAILED DESCRIPTION

The present invention relates generally to the powering up and down as well as resetting of modern computer systems. The following description is presented to enable one of ordinary skill in the art to make and use the invention and is provided in the context of a patent application and its requirements. Various modifications to the preferred embodiment and the generic principles and features described herein will be readily apparent to those skilled in the art. Thus, the present invention is not intended to be limited to the embodiment shown but is to be accorded the widest scope consistent with the principles and features described herein.

Modern computer systems have sophisticated power supplies that require more than one switch for powering up and down of the system. Many of these systems come with at least two switches that are accessed on the front of the system box for power on and off of the system and resetting the system. These switches are made easily accessible because the power switch is required for the user to turn on and off the system and the reset is needed for

recovery of system software malfunctions. Normally these two switches are in addition to any mains power switch which may also reside on the system chassis and which is usually found in the rear of the system and somewhat inaccessible.

Figure 1 shows a typical connection for a commonly found computer system. To power up or down the system, the user presses the power switch. To reset the computer, the user presses the reset switch.

Unfortunately, due to the sophisticated operating systems that are presently used, accidentally pressing either the power switch or the reset can cause significant harm to the system. Instead, the accepted method for shutting down a modern computer is to run a process on the system operating system which carefully shuts down all running programs and then allows the system to shutdown the system power solely under computer control.

Thus in general, a typical modern computer uses a mechanical switch to power up the system but uses the software of a running computer to shut down its power completely under software control. The use of a switch to shut a computer down or to reset the computer are normally reserved for recovery of a computer system which has some malfunctioning program or programs.

Because the accidental reset or power down of a running computer can have dire consequences, it is advantageous to make sure that the user cannot cause a power down or reset of a computer system by accidentally pressing an easily accessible switch on the front panel of a computer. The current invention addresses this problem by preventing the user from accidentally cause a computer to shut down or to go into reset by the inadvertent contact with either the reset or power switch.

Figure 2 shows the SafeLock arrangement of three switches to perform the functions of power on-off and reset of a computer system. By the addition of a third switch, which allows completion of the other two switch functions, accidental depression of either the power switch or the reset switch, can be prevented. For the desired functions to be performed, the user must now depress two switches. For instance, to power on the system, the user must press both the Power switch and the SafeLock Switch at the same time. Similarly, to reset the system, the user must press both the Reset switch and the SafeLock Switch at the same time.

By placing the SafeLock switch physically between the Power Switch and the Reset Switch, the user can easily perform either function using two fingers. Yet, assuming that the SafeLock switch is greater than a typical finger width away from either the power switch or the reset switch, it is very unlikely that the user will accidentally depress the two required switches for power on-off or reset.

## Conclusion

Modern computer systems require the user to have ready access to both a power on-off switch and a reset switch. However, the common method of using one switch for each function on the front panel of a computer is prone to accidental depressions that can cause significant problems for the computer user and the computer system. The present invention provides a low cost but highly reliable way to improve the reliability of instituting these functions by addition of another switch and a modified electronic circuitry.

Although the present invention has been described in accordance with the embodiments shown, one of ordinary skill in the art will readily recognize that there could be variations to the

embodiments and those variations would be within the spirit and scope of the present invention.

Accordingly, many modifications may be made by one of ordinary skill in the art without departing from the spirit and scope of the appended claims.



## ABSTRACT

In order to prevent accidental depression of a front panel power switch or front panel reset switch of a computer system, a novel circuit utilizing an additional safety switch, the SafeLock switch, is proposed that provides a simple but effective way of preventing accidental switch closures without adding significant cost or complexity to the original switch functions.

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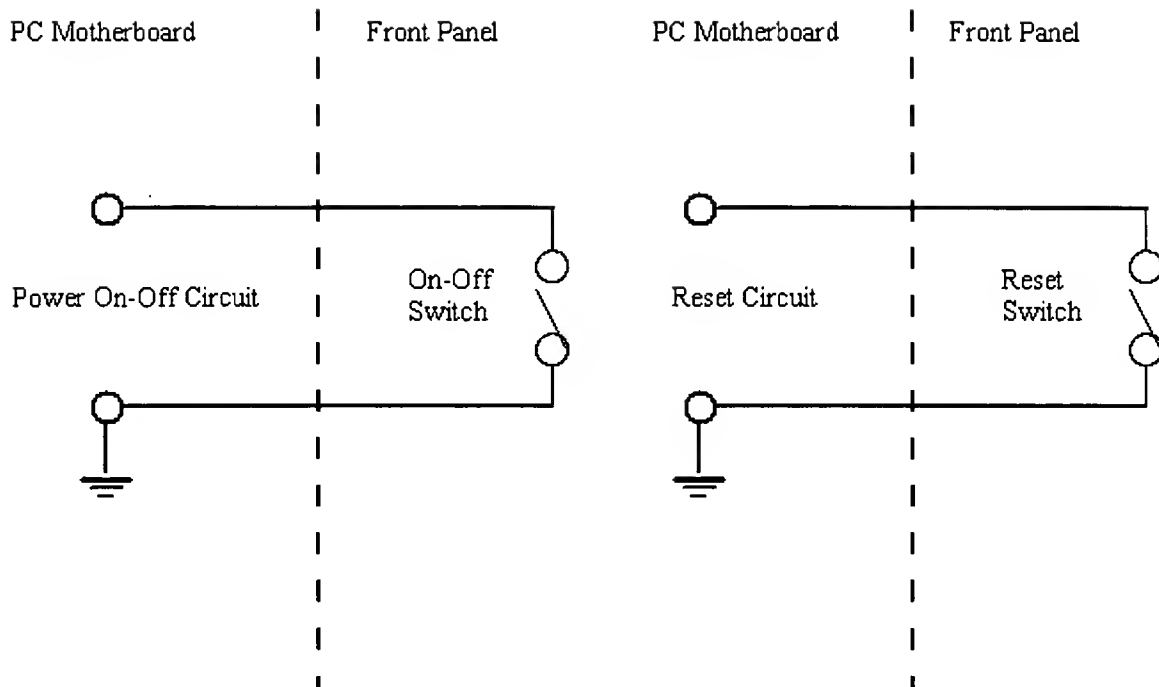


FIGURE 1 : TYPICAL MOTHERBOARD POWER AND RESET CIRCUITRY

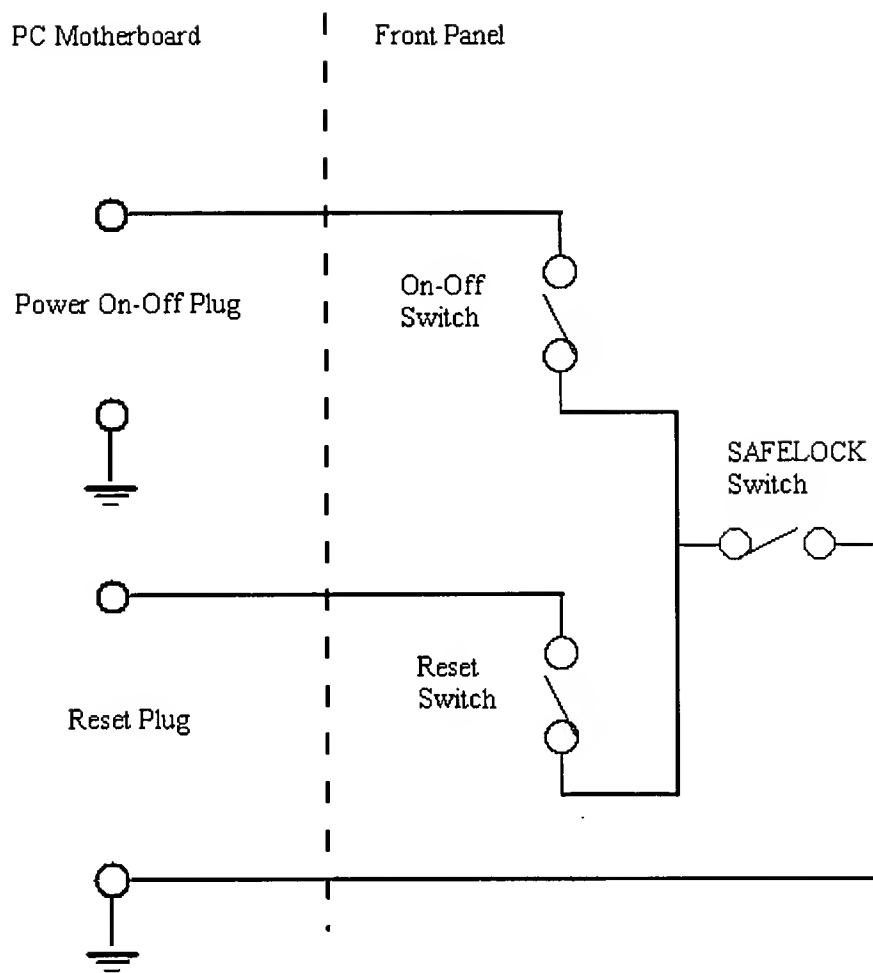


FIGURE 2 : SAFELOCK MOTHERBOARD POWER AND RESET CIRCUITRY